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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,658	07/02/2003	Michael P. Galligan	4576/4581A	5534

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EXAMINER	
NGUYEN, NGOC YEN M	
ART UNIT	PAPER NUMBER
1754	

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/612,658

Applicant(s)

GALLIGAN ET AL.

Examiner

Ngoc-Yen M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida (4,455,281) in view of EP 0 831 211 .

Ishida et al discloses a plate-shaped catalyst unit for NO<sub>x</sub> reduction of exhaust gas (note title). The catalyst unit is produced by a method comprising the steps of spraying molten metal upon the surfaces of a metal plate to allow the molten metal to accumulate thereon to form rough surfaces and depositing a catalyst containing titanium and at least another catalytic material for NO<sub>x</sub> reduction of exhaust gas onto said rough surfaces whereby the catalyst is firmly secured on said rough surfaces (note claim 1). Ishida '281 further discloses that forming the surfaces of the metal plate into rough surfaces is effected by molten metal spraying. In the typical case, a metal wire is heated to be molten by contact resistance of electricity, an electric arc or high temperature flames, and molten metal thus obtained are sprayed together with gas such as compressed air through nozzles on the surfaces of the metal plate in the forms of very small droplets of molten metal allowing the molten metal to solidly secured thereto. As the molten metal sprayed, the same type of material as the metal plate is preferred.

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Then a catalytic substance is attached onto the surfaces of the metal plate formed into rough surfaces by the molten metal spraying (note column 4, line 62 to column 5, lines 13). As shown in Figures 5-21, the substrate in Ishida can be bend to form different shape as required in the instant claim 1.

The metal plate can be thin steel plates, such as ASTM type 430, type 410 and type 304 (note column 4, lines 53-61). The "thin" metal plates as disclosed in Ishida '281 would be considered "pliable" as required in the instant claim 1 and since the anchor layer in Nishida '281 is formed by electric arc spraying method, just as in the claimed invention, such anchor layer would inherently as "capable of retaining a catalytic coating applied thereto intact on the carrier when the pliable carrier is bent" as the claimed product.

Ishida '281 further discloses that the catalytic substances are mixed in the form of particles with a suitable binder. An inorganic fibrous filler material may be mixed with the paste or slurry so as to further improve adhering property of the catalyst to the surfaces of the metal plate. As the examples of such fillers, heat resistant and corrosion resistant materials such as glass fibers (i.e. silicon oxide), etc. can be used (note column 5, lines 24-41). The filler is considered the same as the claimed refractory metal oxide support.

Ishida '281 does not specifically disclose the shape of the catalyst unit.

EP '211 is applied to teach that catalytic metal bearing member is desired to have tubular, corrugated shape (note item 22 in Figure 7).

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It would have been obvious to one of ordinary skill in the art to shape the catalyst unit in Nishida to any known, conventional shape, such as a tubular, corrugated shape, as suggested by EP '211.

Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

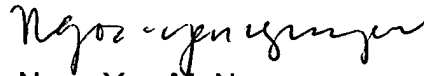
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc-Yen M. Nguyen whose telephone number is (571) 272-1356. The examiner is currently on Part time schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Stan Silverman can be reached on (571) 272-1358. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed (571) 272-1700.

  
Ngoc-Yen M. Nguyen  
Primary Examiner  
Art Unit 1754

nmn  
March 20, 2005